

Appl. No.: 10/780,521
Amdt. dated November 15, 2004
Reply to Office action of September 13, 2004

AMENDMENTS TO THE CLAIMS

1. (original) A store ejection system for mounting a jettisonable store, the store ejection system using a gas as the source of energy and the transfer mechanism and comprising:
 - an on-board pressure vessel of pressurized non-pyrotechnic gas for providing the source of energy and the transfer mechanism;
 - a releasable valve configured to hermetically seal the pressure vessel, the releasable valve having an adjustable valve member adapted to be adjusted from a closed position to an open position, thereby releasing the gas from the vessel;
 - an actuation system comprising an accumulator configured to be fluidly connected to the pressure vessel to receive and store the gas from the pressure vessel, a dump valve for controlling a flow of gas from the accumulator, and a controller for actuating the dump valve to an open position in response to a control signal to jettison the store;
 - a pneumatically-driven jettison mechanism for releasably retaining the store, the jettison mechanism fluidly connected to the dump valve such that actuating the dump valve to the open position releases the pressurized gas in the accumulator to flow to the jettison mechanism, thereby actuating the jettison mechanism to jettison the store; and
 - a valve actuator configured to receive a signal from the controller and adjust the valve member from the closed position to the open position in response to the signal from the controller after the pressure vessel is installed in the system such that the releasable valve hermetically seals the pressure vessel until the pressure vessel is installed in the system and the controller issues the signal to the valve actuator.
2. (original) A store ejection system according to Claim 1 wherein the releasable valve has a valve body defining an aperture extending between an inlet and outlet and providing a passage for the gas from the pressure vessel at least partially to the accumulator, the adjustable valve member being slidably adjustable in the aperture from the closed position to the open position, the adjustable valve member in the closed position being biased against the valve body to seal the aperture.

Appl. No.: 10/780,521
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3. (original) A store ejection system according to Claim 2 wherein the adjustable valve member is configured to slide toward an internal space of the pressure vessel to open the valve and fluidly connect the pressure vessel to the accumulator such that the gas in the pressure vessel biases the adjustable valve member to the closed position.
4. (original) A store ejection system according to Claim 2, further comprising a spring configured to bias the adjustable valve member to the closed position.
5. (original) A store ejection system according to Claim 2, further comprising a lock spring member configured to open when the adjustable valve member is adjusted to the open position, the lock spring member thereby locking the adjustable valve member in the open position.
6. (original) A store ejection system according to Claim 2 wherein the valve actuator is configured to advance a plunger in response to the signal from the controller, the plunger configured to linearly adjust the adjustable member to the open position.
7. (original) A store ejection system according to Claim 1 wherein the pressure vessel is configured to be substantially directly fluidly connected to the accumulator such that the gas is delivered from the pressure vessel to the accumulator with a substantially uniform pressure therebetween.
8. (original) A store ejection system according to Claim 1 wherein the actuation system further includes a relief valve for venting the gas from the accumulator.
9. (original) A store ejection system according to Claim 1 wherein the jettison mechanism further comprises at least one hook for releasably retaining the store, each hook configured to be actuated to release the store from the jettison mechanism by the pressurized gas exiting the accumulator through the dump valve.
10. (original) A store ejection system according to Claim 9 wherein the jettison mechanism further comprises at least one ejector piston for forcibly jettisoning the store when the hook has

Appl. No.: 10/780,521
Amdt. dated November 15, 2004
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been actuated to a release position, each ejector piston being actuated to jettison the store by the pressurized gas exiting the accumulator through the dump valve.

11. (original) A store ejection system according to Claim 1 wherein the releasable valve is fixedly attached to the pressure vessel and the valve is configured to be non-resealable after the valve member is actuated to the open position.
12. (original) An apparatus for providing a non-pyrotechnic gas for a store ejection system using the gas as the source of energy and the transfer mechanism, the apparatus comprising:
 - a pressure vessel defining an internal space for holding the non-pyrotechnic gas; and
 - a releasable valve comprising:
 - a valve body defining an aperture extending between an inlet and outlet and providing a passage for the gas to exit the internal space of the pressure vessel;
 - an adjustable valve member being slidably mounted in the aperture and adapted to be adjusted from a closed position in which the adjustable valve member hermetically seals the aperture to an open position to release gas from the vessel, the adjustable valve member being configured to slide toward the internal space of the pressure vessel to open the valve such that the gas in the pressure vessel biases the adjustable valve member to the closed position; and
 - a lock spring member configured to open when the adjustable valve member is adjusted to the open position, the lock spring member thereby locking the adjustable valve member in the open position.
13. (original) An apparatus according to Claim 12, further comprising a spring configured to bias the adjustable valve member to the closed position.
14. (original) An apparatus according to Claim 12, further comprising a threaded connection portion extending annularly around the valve body such that the valve body can be connected to the store ejection system and the gas can be delivered from the pressure vessel to the ejection system.

Appl. No.: 10/780,521
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15. (original) An apparatus according to Claim 12 wherein the valve body is fixedly attached to the pressure vessel and the releasable valve is configured to be non-resealable after the valve member is actuated to the open position.

Claims 16-28 (cancelled)